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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/664,219	09/17/2003	Robert Victor Stone	A01280A	3353

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EXAMINER

ZALUKAIEVA, TATYANA

ART UNIT

PAPER NUMBER

1713

DATE MAILED: 01/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/664,219

Applicant(s)

SLONE, ROBERT VICTOR

Examiner

Tatyana Zalukaeva

Art Unit

1713

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 September 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3-9, 11-15 and 18-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3-9, 11-15 and 18-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. Claims 3-9, 11-15, 18-20 are pending.
2. Applicants are reminded to update the continuity data on the first page of Specification with regard to the issued patent.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 3-9, 11-15, 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Senkus et al (U.S. 5,952,420) or over WO 01/36505 A1 (equivalent to U.S. 6,620,874 filed 11/1999), each one individually.

Senkus discloses a seed polymerization process to obtain a polyacrylate polymer, such process is best described in Examples 1-5, starting in col. 12. The polymerization method is carried out in a manner of mixing the premix and an aqueous solution comprising suspension agent, the recipe is given in a Table reproduced below:

Total amounts of monomers are presented in table 1, col. 9:

Alkyl acrylate monomer 70 to 98% wt;

Polar monomer 1 to 10, %

Vinyl acetate monomer (where used) 0.1 to 40, % wt;

Higher vinyl ester monomer (where 0.1 to 40 used), such as vinyl pivalate

Suspension stabilizer modifier 0.5 to 30% wt;

Chain transfer agent 0.01 to 0.5% wt;

Free-radical initiator 0.05 to 1% wt;

As disclosed for a seed process in Senkus, the suspension polymerization reaction was carried out in a 1-liter split-flask equipped with a condenser, thermometer, nitrogen inlet, motor-driven agitator, and a heating mantle with temperature control. The reaction flask **was first charged with the ingredients of the aqueous dispersion** listed in Table 2 and heated to 55°C. The batch of dispersion was maintained at this temperature with agitation for 1 hour. At this point, a premixed charge **of the oil phase**, listed in Table 2, was added to the flask while vigorous agitation was maintained to obtain a good suspension. The polymerization reaction was continued with nitrogen purging throughout the polymerization. (col. 12, lines 54-67).

Art Unit: 1713

Ingredients, grams:

1 2 3 4 5

Aqueous Dispersion:

Water (deionized)

610 610 695 610 610

Methacrylic acid

20 25 20 25 25

Zinc oxide 2.5 2.5 2.5 2.5 2.5

Colloidal silica.sup.a

4.4 2.5 4.4 2.5 2.5

Sodium styrene sulfonate

0 25 24 25 25

Poly(alkyleneoxy) sulfate.

0 0 3.1 0.32 1.1

Oil Phase:

Isooctyl acrylate

432 445 432 445 445

Polystyryl macromer.

13 0 13 0 0

Vinyl acetate

0 30 0 30 30

Isooctyl thioglycolate

0.25 0.46 0.25 0.46 0.46

2,2'-Azobisbutyro- nitrile

2.5 2.5 2.5 2.5 2.5

WO'505 discloses a two step suspension polymerization comprising step (a) forming an aqueous phase comprising an acid monomer, metal oxide and at least a first and second surfactant, (b) forming an oil phase comprising at least one vinyl monomer; (c) polymerizing an aqueous phase with an oil phase.

Suitable vinyl monomers are listed on page 6, lines 4-15, acid monomers are listed on page 6, lines 24-30. Metal; oxide, which is ZnO, CaO or MgO is taken in the amount to fully neutralize the acid functionality of a monomer (page 6, lines 30—32, page 7, lines 21-23). Surfactants are described on page 8, lines 5-15.

The disclosures of Senkus and WO'505 do not specifically elucidate the order of operations as instantly claimed, however, they both provide for multi-stage emulsion polymerization having essentially the same steps as instantly claimed, and therefore a person skilled in the art would have found obvious to select any order as per In re Gibson, 39 F.2d 975, 5 USPQ 230 (CCPA 1930) see also In re Burhans, 154 F.2d 690, 69 USPQ 330 (CCPA 1946) and Ex parte Rubin, 128 USPQ 440 (Bd. App., 1959), wherein stated that selection of any order of operations is prima facie obvious lacking showing criticality of the order as claimed.

The second difference in Senkus and WO'505 is relative solubility of multivalent cations. However, the degree of solubility of cations of the instant claims is not defined in the instant claims, and therefore those skilled in the art would have found obvious to expect partially soluble salts of Senkus and WO'505 to be operable within the Applicants' disclosure with the reasonable expectation of success.

6. Other prior art cited in PTOL-982 shows different aspects of seed polymerization.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tatyana Zalukaeva whose telephone number is (571) 272-1115. The examiner can normally be reached on 9:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on (571) 272-1114. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-1700.



Tatyana Zalukaeva
Primary Examiner
Art Unit 1713

January 16, 2004